Ecological Modeling: Principles to Build and Integrate Capability

Workshop Summary

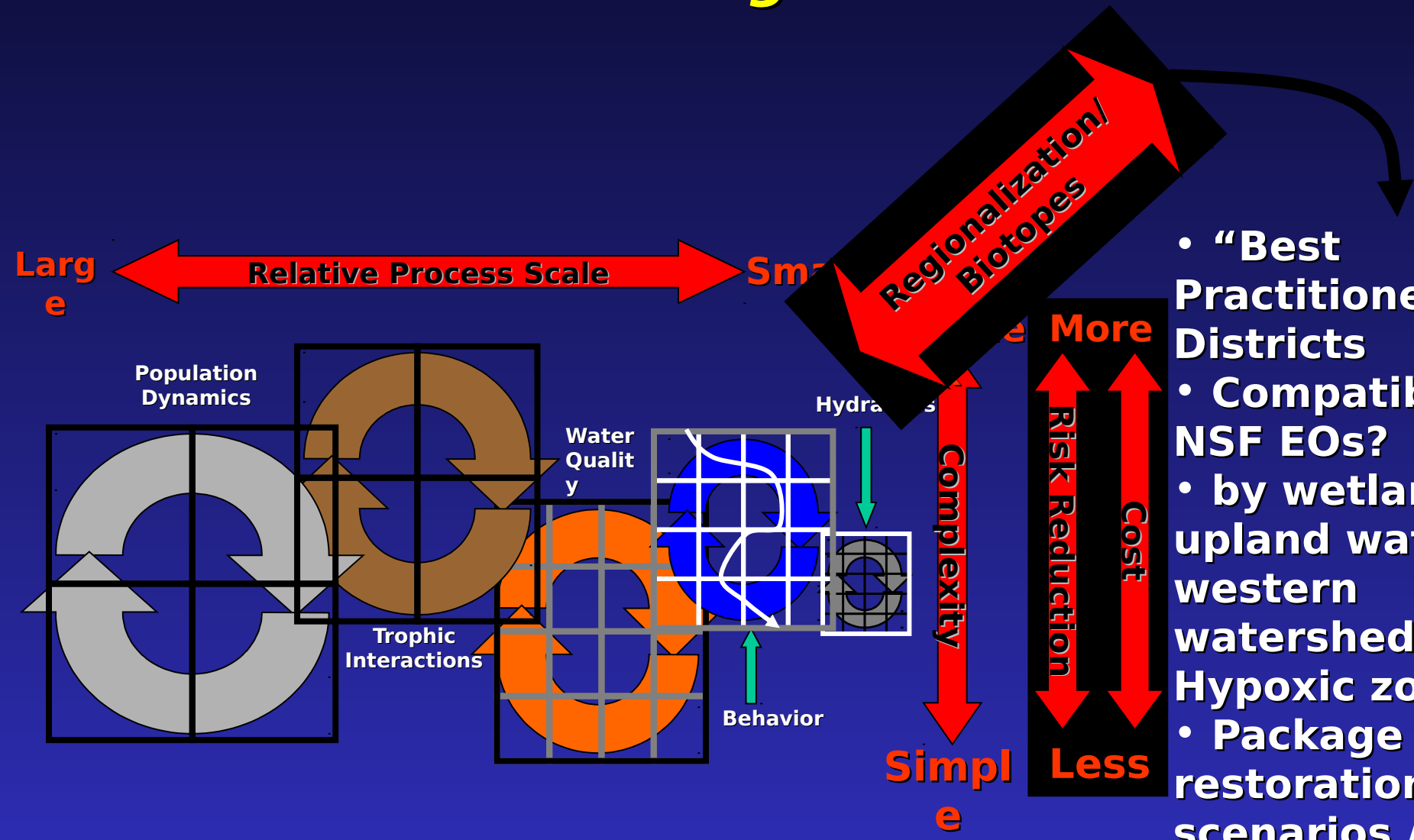
06JUN07

The Vision:

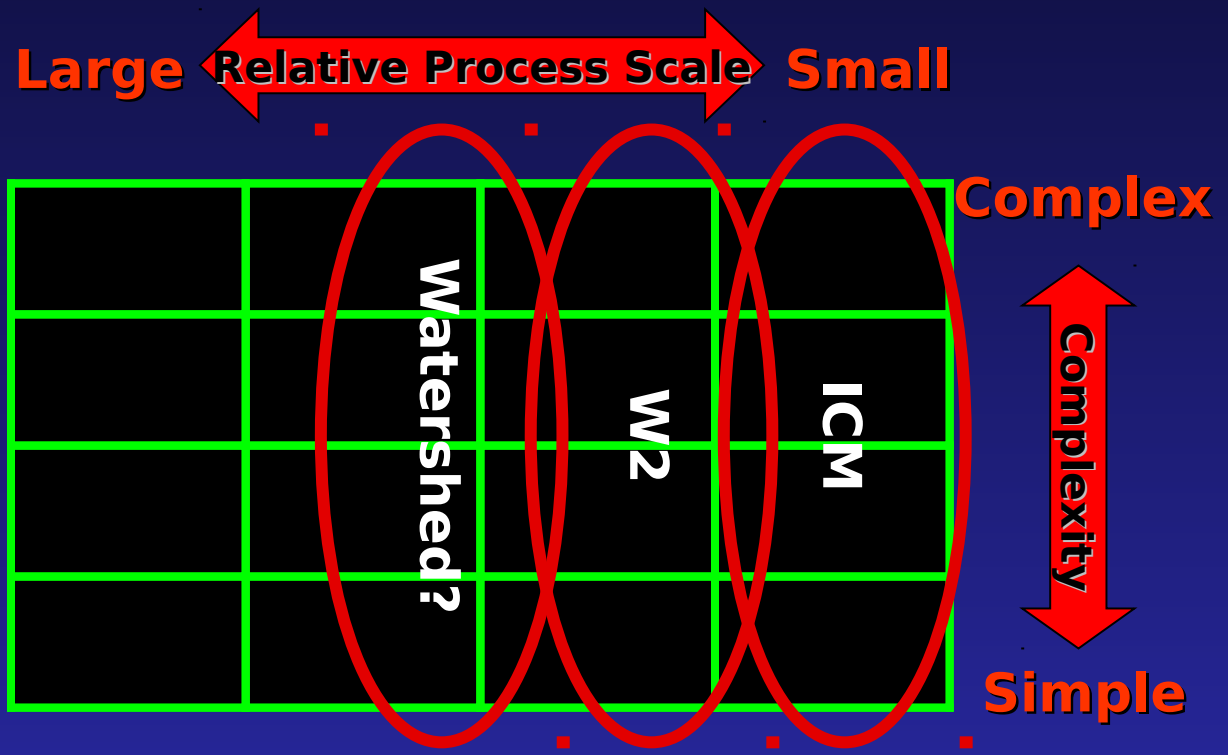
Engineers & Ecologists Working Together with Harmony and Mutual Respect

Can the Vision Be Achieved?

Modeling Framework



- "Best Practitioner" Districts
- Compatible with NSF EOs?
- by wetland types, upland watersheds, western watersheds, Hypoxic zones, etc.
- Package restoration scenarios / products that work together on specific ecotypes
- binds closer to


Large
Relative Process Scale
Small
Complex
Complexity
Simple
Watershed?
W2
ICM

Workshop Goals Day 1:

- Clearly articulate 2-4 integrating, binding concepts upon which we can ordinate ERDC eco-modeling capability
  - Integrated Reference Frameworks Concept (scale)
  - Ecological Modeling Similitude Analysis (simple to complex)
  - B/C analysis of simple to complex to assess risk reduction benefit of complex tools – coincident applications
  - Address issues in contrast to building tools
  - Build capacity – build models and modelers
  - dam removal is emerging mission area
  - From CHL – what do ecologists need?

System-Wide Water Resources Program SWWRP

Eco-modeling Challenges

- *Overcome time and space scale incompatibilities*
- *Incorporate feedbacks among coupled models*
- *Select an optimum environmental model for each application*
- *Expand use of environmental engineering models*
- *Special applications and systems*
- *Assess model performance*